CLAIMS

What is claimed is:

1. An orthopedic cutting guide device for use in

resecting a portion of a bone, the device comprising:

a first member having a pivot, and configured to be

anchored to the bone;

a second member releasably secured to the first member;

and

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a cut guide member releasably secured to the second

member such that the cut guide member and the second member

move together about the pivot of the first member when said

second member is selectively released from said first member,

wherein said cut guide member is further secured to said

second member such that when the cut guide member is

selectively released from said second member the cut guide

member is thereby permitted to move with respect to said first

member independently from said second member;

whereby a surgeon selectively adjusts the device, prior

to committing to a cut in the bone, in both a rotational and

translational manner while at least a portion of the device is

anchored to the bone.

- 2. The orthopedic cutting guide device of claim 1, wherein said device further comprises at least one securing member implanted within and protruding from the bone.
- 3. The orthopedic cutting guide device of claim 2, wherein the first member is anchored to the bone by the at least one securing member.
- 4. The orthopedic cutting guide device of claim 1,
 wherein said device further comprises a boom configured as a reference to aid the surgeon in making an anterior cut in the bone, and further aids in the avoidance of notching the bone.
- 5. The orthopedic cutting guide device of claim 4,
 wherein the cut guide member comprises a top surface and a
 bottom surface, said top surface having an opening therein
 configured for receiving a portion of the boom.
- 6. The orthopedic cutting guide device of claim 5,
 wherein the boom comprises a first end and a second end, the
 first end of said boom being dimensioned to fit within the
 opening of the cut guide member and configured and dimensioned
 to be secured therein.

7. The orthopedic cutting guide device of claim 2, wherein said first member comprises at least one through hole dimensioned for permitting the at least one securing member to pass therethrough.

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- 8. The orthopedic cutting guide device of claim 1, wherein said first member comprises a top surface, a bottom surface, an outer wall, a first end and a second end, said outer wall tapering outwardly from a central reference point toward the first end and the second end.
- 9. The orthopedic cutting guide device of claim 8, wherein said first end and said second end of said first member each act as the pivot, and are each shaped in a substantially rounded configuration.
- 10. The orthopedic cutting guide device of claim 9, wherein the tapering of the outer wall of the first member results in a height measured between the top surface and the bottom surface at the central reference point that is greater than a height measured between the top surface and bottom surface at the first end and the second end.

- 11. The orthopedic cutting guide device of claim 1, wherein said first member comprises a central through hole.
- 12. The orthopedic cutting guide device of claim 1, wherein said first member comprises a central through hole, a first side and a second side, wherein the first side and the second side each comprise a plurality of protrusions located medially and laterally of the central through hole of the first member for interacting with the second member and the cut guide member.
 - wherein said second member comprises a plurality of through holes, and said cut guide member comprises a plurality of through holes, such that the plurality of protrusions of the first side of the first member are inserted into the plurality of through holes of the second member, and the plurality of protrusions of the second side of the first member are inserted into plurality of protrusions of the second side of the first member are inserted into plurality of through holes of the cut guide member, to thereby interact with one another during adjustment of the device.

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- 14. The orthopedic cutting guide device of claim 1, wherein said second member comprises a plurality of through holes.
- 5 15. The orthopedic cutting guide device of claim 1, wherein said second member comprises a central through hole and at least one through hole located on either side of the central through hole.
- 16. The orthopedic cutting guide device of claim 1, wherein said second member comprises at least one translational through hole.
- 17. The orthopedic cutting guide device of claim 16,

 wherein said second member comprises a first end and a second end, and wherein said at least one translational through hole comprises a plurality of translational through holes, and wherein at least one of the plurality of translational through holes is located near each of the first end and the second end of the second member.

- 18. The orthopedic cutting guide device of claim 16, wherein said at least one translational through hole comprises a substantially elongated shape.
- 19. The orthopedic cutting guide device of claim 14, wherein the plurality of through holes comprises a central hole, a plurality of translational through holes, and a plurality of through holes located medially and laterally of said central through hole.

- 20. The orthopedic cutting guide device of claim 15, wherein the at least one through hole is shaped in a substantially arcuate manner.
- 15 21. The orthopedic cutting guide device of claim 1, wherein said second member comprises a first protruding wall and a second protruding wall.
- 22. The orthopedic cutting guide device of claim 21,
 wherein said second member further comprises a first side and
 a second side, wherein said first protruding wall and said
 second protruding wall both protrude outwardly from the second

side of the second member in a substantially orthogonal manner.

- 23. The orthopedic cutting guide device of claim 22, wherein said first protruding wall and said second protruding wall are shaped in a substantially arcuate manner.
- 24. The orthopedic cutting guide device of claim 1, wherein said second member comprises a series of markings10 corresponding to a predetermined angle of rotation of the second member.
 - 25. The orthopedic cutting guide device of claim 1, wherein said cut guide member further comprises a recessed surface and a sidewall defining a recessed area.
 - 26. The orthopedic cutting guide device of claim 1, wherein said cut guide member further comprises an anterior portion and a posterior portion, said anterior portion having an anterior cutting guide and said posterior portion having a posterior cutting guide.

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27. The orthopedic cutting guide device of claim 26,

wherein said cut guide member further comprises a connecting

portion located on the anterior side of the cut guide member,

said connecting portion comprising an opening for receiving a

boom therein.

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28. The orthopedic cutting guide device of claim 12,

wherein said cut guide member further comprises a plurality of

substantially elongated holes configured for interacting with

10 at least one of the plurality of protrusions.

29. The orthopedic cutting guide device of claim 1,

wherein said cut guide member further comprises a plurality of

receiving holes, each receiving hole configured for receiving

an attachment member therein.

30. The orthopedic cutting guide device of claim 1,

wherein the device further comprises an attachment member

configured for releasably securing the second member to the

first member, whereby the surgeon selectively loosens the

attachment member thereby releasing said second member from

the first member such that the second member and the cut guide

member rotate together about the pivot of the first member.

- 31. The orthopedic cutting guide device of claim 1, wherein the device further comprises at least one attachment member configured for releasably securing the cut guide member to the second member, whereby the surgeon selectively loosens the at least one attachment member thereby releasing the cut guide member from the second member such that the cut guide member moves in said translational manner independent from both the second member and the first member.
- 32. The orthopedic cutting guide device of claim 1, wherein the cut guide member further comprises an anterior cutting guide formed in an anterior portion of said cut guide member.
- 33. The orthopedic cutting guide device of claim 32, wherein the anterior cutting guide slopes downwardly in a proximal to distal direction from a back surface to a front surface of the cut guide member such that a resulting anterior cut is tapered.

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34. The orthopedic cutting guide device of claim 32, wherein the anterior cutting guide is formed as a slit in the anterior portion of said cut guide member.

- 35. The orthopedic cutting guide device of claim 1, wherein the cut guide member further comprises a posterior portion having a posterior cutting guide that is configured and dimensioned as a template for making a posterior cut in the bone.
- 36. The orthopedic cutting guide device of claim 35, wherein the posterior cutting guide comprises a substantially flat surface that enables a surgeon to place a cutting instrument in contact with the substantially flat surface of said posterior cutting guide, such that a cut that is substantially straight and flat can be made.
- 37. The orthopedic cutting guide device of claim 35,

 wherein the posterior cutting guide is a bottom edge of the cut guide member.
 - 38. An orthopedic cutting guide device for use in resecting a portion of a bone, the device comprising:
- a support member having a pivot, and configured to be anchored to the bone;
 - a positioning member configured to be releasably secured to the support member; and

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a cut guide member configured to be releasably secured to

the positioning member, said cut guide member and said

positioning member being secured to one another, such that the

cut guide member and the positioning member move together when

said positioning member is selectively released from the

support member;

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whereby a surgeon selectively adjusts the cut guide

member and the positioning member in a rotational manner about

the pivot of the support member, prior to committing to a cut

in the bone, while at least a portion of the device is

anchored to the bone.

39. The orthopedic cutting guide device of claim 38,

wherein said device further comprises at least one securing

member implanted within and protruding from the bone.

40. The orthopedic cutting guide device of claim 39,

wherein the support member is anchored to the bone by the at

least one securing member.

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41. The orthopedic cutting guide device of claim 39,

wherein said support member comprises at least one through

hole for permitting the at least one securing member to pass therethrough.

- 42. The orthopedic cutting guide device of claim 38,

 wherein said support member comprises an outer wall, a first
 end and a second end, said outer wall tapers outwardly from a
 central reference point toward said first end and said second
 end.
- wherein said first end and said second end of the support member each operate as the pivot, and are each shaped such that a substantially rounded configuration is achieved.
- 15 44. The orthopedic cutting guide device of claim 42, wherein the tapering of the outer wall results in a height at the central reference point that is greater than a height at the first end and the second end.
- 20 45. The orthopedic cutting guide device of claim 38, wherein said support member comprises a central through hole.

- 46. The orthopedic cutting guide device of claim 38, wherein said support member comprises a plurality of protrusions located medially and laterally of a central through hole of the support member configured for interacting with the positioning member.
- 47. The orthopedic cutting guide device of claim 46, wherein said positioning member comprises a plurality of through holes such that the plurality of protrusions of the support member are inserted into the plurality of through holes of the positioning member such that the plurality of protrusions interacts with the plurality of through holes during rotational adjustment of the device.
- 48. The orthopedic cutting guide device of claim 38, wherein said positioning member comprises a plurality of through holes.
- 49. The orthopedic cutting guide device of claim 38,
 20 wherein said positioning member comprises a central through
 hole and at least one through hole located on either side of
 the central through hole on the positioning member.

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50. The orthopedic cutting guide device of claim 49, wherein the at least one through hole located on either side

of the central through hole is substantially shaped in an

arcuate manner.

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51. The orthopedic cutting guide device of claim 48,

wherein the plurality of through holes comprises a central

hole, a plurality of translational through holes, and a

plurality of through holes located medially and laterally of

10 said central through hole.

52. The orthopedic cutting guide device of claim 38,

wherein said positioning member comprises a first protruding

wall and a second protruding wall, and said support member

comprises a first end and a second end that each have a

substantially rounded configuration.

53. The orthopedic cutting guide device of claim 52,

wherein said positioning member further comprises a first side

and a second side, wherein said first protruding wall and said

second protruding wall protrude outwardly from the second side

of the positioning member in a substantially orthogonal

manner.

- 54. The orthopedic cutting guide device of claim 52, wherein said first protruding wall and said second protruding wall are each shaped in a substantially arcuate manner, such that the first protruding wall and the second protruding wall move about the substantially rounded first and second ends of the support member as the device is rotated, moving both the positioning member and the cut guide member together.
- The orthopedic cutting guide device of claim 52, wherein the positioning member further comprises a plurality 10 of substantially arcuate through holes, said first protruding wall and said second protruding wall are each shaped in a substantially arcuate manner, such that the first protruding second protruding wall about move and the wall substantially rounded first and second ends of the support 15 member as the device is rotated, moving both the positioning member and the cut guide member together within the confines of the plurality of substantially arcuate through holes.
- 20 56. The orthopedic cutting guide device of claim 38, wherein said positioning member comprises a series of markings corresponding to a predetermined angle of rotation of the positioning member.

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wherein the device further comprises an attachment member configured for releasably securing the positioning member to the support member, whereby the surgeon selectively loosens the attachment member thereby releasing said positioning

The orthopedic cutting guide device of claim 38,

member from the support member such that the positioning

member and the cut guide member rotate together about the

pivot of the support member.

58. An orthopedic cutting guide device for use in resecting a portion of a bone, the device comprising:

a support member configured to be anchored to the bone;

a positioning member configured to be releasably secured

to the support member; and

a cut guide member configured to be releasably secured to the positioning member such that the cut guide member is selectively adjusted by releasing the cut guide member from said positioning member permitting the cut guide member to move independently from said positioning member and said

20 support member;

whereby a surgeon selectively adjusts the cut guide member in a translational manner with respect to said support member and said positioning member, prior to committing to a

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cut in the bone, while at least a portion of the device is

anchored to the bone.

59. The orthopedic cutting guide device of claim 58,

wherein said device further comprises at least one securing

member implanted within and protruding from the bone.

60. The orthopedic cutting guide device of claim 59,

wherein the support member is anchored to the bone by the at

10 least one securing member.

61. The orthopedic cutting guide device of claim 58,

wherein said device further comprises a boom configured as a

reference point to aid the surgeon in making an anterior cut

in the bone, and further aids in the avoidance of notching the

bone.

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62. The orthopedic cutting guide device of claim 61,

wherein said cut guide member comprises a top surface and a

bottom surface, said top surface having an opening therein

configured for receiving a portion of the boom.

63. The orthopedic cutting guide device of claim 62, wherein said boom comprises a first end and a second end, the first end of said boom being dimensioned to fit within the opening of the cut guide member.

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64. The orthopedic cutting guide device of claim 59, wherein said support member comprises at least one through hole for permitting the at least one securing member to pass therethrough.

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- 65. The orthopedic cutting guide device of claim 58, wherein said support member comprises an outer wall, a first end and a second end, said outer wall tapers outwardly from a central reference point toward said first end and said second end.
- 66. The orthopedic cutting guide device of claim 65, wherein said first end and said second end are each shaped such that a substantially rounded configuration is achieved.

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67. The orthopedic cutting guide device of claim 66, wherein the tapering of the outer wall results in a height at

the central reference point that is greater than a height at the first end and the second end.

68. The orthopedic cutting guide device of claim 58,

wherein said support member comprises a central through hole.

69. The orthopedic cutting guide device of claim 58,

wherein said support member comprises a plurality of

protrusions located medially and laterally of a central

through hole of the support member configured for interacting

with the cut guide member.

70. The orthopedic cutting guide device of claim 69,

wherein said cut guide member comprises a plurality of through

holes, and wherein the plurality of protrusions of the support

member are inserted into the plurality of through holes of the

cut guide member, such that the plurality of protrusions

interacts with the plurality of through holes of the cut guide

member during adjustment of the device.

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71. The orthopedic cutting guide device of claim 58,

wherein said positioning member comprises a plurality of

through holes.

- 72. The orthopedic cutting guide device of claim 58, wherein said positioning member comprises at least one translational through hole.
- 73. The orthopedic cutting guide device of claim 72, wherein said positioning member comprises a first end and a second end, and wherein said at least one translational through hole comprises a plurality of translational through holes, at least one of the plurality of translational through holes being located at the first end and at the second end of the positioning member.
 - 74. The orthopedic cutting guide device of claim 72, wherein said at least one translational through hole comprises a substantially elongated shape.
 - 75. The orthopedic cutting guide device of claim 58, wherein said cut guide member further comprises a recessed surface and a sidewall defining a recessed area.

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76. The orthopedic cutting guide device of claim 58, wherein said cut guide member further comprises an anterior portion and a posterior portion, said anterior portion having

an anterior cutting guide and said posterior portion having a posterior cutting guide.

- 77. The orthopedic cutting guide device of claim 76, wherein said cut guide member further comprises a connecting portion located on the anterior side of the cut guide member, said connecting portion comprising an opening for receiving a boom therein.
- 78. The orthopedic cutting guide device of claim 69, wherein said cut guide member further comprises a plurality of substantially elongated holes configured for interacting with the plurality of protrusions.
 - 79. The orthopedic cutting guide device of claim 78, wherein said support member comprises a pivot, and wherein said cut guide member and said positioning member are secured to one another such that they move together when said positioning member is selectively released from the support member, whereby the surgeon selectively adjusts the device by moving said cut guide member and said positioning member in a rotational manner about the pivot of the support member, such that the plurality of protrusions slide within the plurality

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of substantially elongated holes of the cut guide member as said device is adjusted in said rotational manner, prior to the surgeon committing to a cut in the bone, while at least a portion of the device is anchored to the bone.

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80. The orthopedic cutting guide device of claim 58, wherein said cut guide member further comprises a plurality of receiving holes, each receiving hole configured for receiving an attachment member therein.

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81. The orthopedic cutting guide device of claim 58, wherein the device further comprises at least one attachment member configured for releasably securing the cut guide member to the positioning member, whereby the surgeon selectively loosens the at least one attachment member thereby releasing the cut guide member from the positioning member such that the cut guide member moves in said translational manner independent from both the positioning member and the support member.

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82. An orthopedic cutting guide device for use in resecting a portion of a bone, the device comprising:

a support member having a pivot, and configured to be

anchored to the bone;

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a positioning member configured to be releasably secured

to the support member such that the positioning member is

selectively moved with respect to the support member when said

positioning member is released from said support member; and

a cut guide member configured to be releasably secured to

the positioning member, said cut guide member and said

positioning member being secured to one another such that they

move together in a rotational manner about the pivot of the

support member when said positioning member is selectively

released from said support member, said cut guide member being

further secured to said positioning member such that when the

cut guide member is selectively released from said positioning

member, the cut guide member is permitted to move in a

translational manner with respect to the support member and

the positioning member;

whereby a surgeon selectively adjusts the device, prior

to committing to a cut in the bone, while at least a portion

20 of the device is anchored to the bone.

83. An orthopedic cutting guide device for use in

resecting a portion of a bone, the device comprising:

a support member having a pivot, and configured for being

anchored to the bone;

a cut guide member configured for engaging the support

member such that the support member engages at least a portion

of the cut guide member; and

a means for attaching the cut guide member to the support

member, such that the cut guide member is secured to said

means for attaching and is selectively releasable from said

means for attaching, thus permitting the cut guide member to

move in a translational manner independent from and with

respect to said support member and said means for attaching

when said cut guide member is released from said means for

attaching;

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whereby a surgeon selectively adjusts the device, prior

to committing to a cut in the bone, while at least a portion

of the device is anchored to the bone.

84. The orthopedic cutting guide device of claim 83,

wherein device further comprises a means for rotating said cut

guide member and said means for attaching together about the

pivot of said support member such that the device is

rotationally adjusted.

- The orthopedic cutting guide device of claim 84, wherein said means for rotating comprises an attachment member configured for releasably securing the means for attaching to the support member, whereby the surgeon selectively loosens the attachment member thereby releasing said means for attaching from the support member such that the means for attaching and the cut guide member rotate together about the pivot of the support member.
- The orthopedic cutting guide device of claim 83, 10 wherein said means for attaching further comprises a first protruding wall and a second protruding wall, and a plurality of substantially elongated through holes.
- The orthopedic cutting guide device of claim 83, wherein said device further comprises at least one attachment member configured to secure the means for attaching to the cut guide member, and wherein said means for attaching comprises at least one translational through hole for receiving the at least one attachment member therethrough, whereby the surgeon 20 selectively loosens the at the least one attachment member, thus releasing the cut guide member from the means for

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attaching and enabling the cut guide member to move in said translational manner.

88. An orthopedic cutting guide device for use in resecting a portion of a bone, the device comprising:

a support member having an outer surface defining the shape of the support member and a pivot located thereon, the support member configured for being anchored to the bone;

a positioning member configured for being secured to the support member, such that the positioning member is selectively releasable from the support member; and

a means for translating the device with respect to the support member, said means for translating configured to be attached to the positioning member such that the means for translating is selectively released from the positioning member permitting the means for translating to move independently from the support member and the positioning member:

whereby a surgeon selectively adjusts the device, prior to committing to a cut in the bone, while at least a portion of the device is anchored to the bone.

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- 89. The orthopedic cutting guide device of claim 88, wherein said device further comprises a means for rotating, which permits the positioning member to rotate about the pivot of the support member to adjust the device in a rotational manner.
- 90. The orthopedic cutting guide device of claim 88, wherein said means for translating comprises at least one wall surface partially defined by a sidewall, said at least one wall surface defining a translation area wherein the positioning member resides, said translation area having an anterior border and a posterior border providing the limits within which the positioning member moves in an anterior or posterior direction to thereby translate the device relative to said support member.
- 91. The orthopedic cutting guide device of claim 88, wherein the device further comprises an attachment member configured to attach the means for translating with the positioning member, such that when the attachment member is selectively loosened by the surgeon, the means for translating is released from said positioning member and permitted to move

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in a translational manner with respect to said support member and said positioning member.

92. An orthopedic cutting guide device for use in resecting a portion of a bone, the device comprising:

a support member releasably secured to an end of the bone by a plurality of securing members;

a positioning member releasably secured to the support member; and

a cut guide member releasably secured to the positioning member, said cut guide member and said positioning member being secured to one another such that they move together when said positioning member is selectively released from said support member, wherein said cut guide member is further secured to said positioning member, such that when the cut guide member is selectively released from said positioning member the cut guide member is permitted to move with respect to said support member independently from said positioning member;

whereby a surgeon selectively adjusts the device in both a rotational and translational manner with respect to the end of the bone, without reattaching any of the plurality of securing members, prior to committing to a cut in the bone.

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93. An orthopedic cutting guide device for use in resecting a portion of a bone, the device comprising:

a support member releasably secured to an end of the bone by a plurality of securing members;

a positioning member releasably secured to the support member; and

a cut guide member releasably secured to the positioning member, said cut guide member and said positioning member being secured to one another such that they move together when said positioning member is selectively released from the support member;

whereby a surgeon selectively adjusts the device in a rotational manner with respect to the end of the bone, without reattaching any of the plurality of securing members, prior to committing to a cut in the bone.

94. An orthopedic cutting guide device for use in resecting a portion of a bone, the device comprising:

a support member releasably secured to an end of the bone by a plurality of securing members;

a positioning member releasably secured to the support member; and

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a cut guide member configured to be releasably secured to the positioning member such that the cut guide member is selectively adjusted by releasing the cut guide member from said positioning member permitting the cut guide member to move independently from said positioning member and said support member;

whereby a surgeon selectively adjusts the device in a translational manner with respect to the end of the bone, without reattaching any of the plurality of securing members, prior to committing to a cut in the bone.

95. An orthopedic cutting guide device for use in resecting a portion of a bone, the device comprising:

a support member comprising a pivot, and configured and dimensioned for being secured to an end of the bone;

a positioning member configured and dimensioned for being releasably secured to the support member, and having a first side and a second side, and further having protruding walls that protrude from the second side such that the protruding walls articulate with the pivot of said support member when said positioning member is released from said support member; and

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a cut guide member configured and dimensioned for being releasably secured to the positioning member, and having a recessed surface and a sidewall defining a recessed area, said recessed area being dimensioned for receiving therein at least a portion of said support member and said positioning member such that at least a portion of said support member and at least a portion of said positioning member contacts at least one of said recessed surface and said sidewall.

96. An orthopedic cutting guide device for use in resecting a portion of a bone, the device comprising:

a support member having at least one through hole defined by a sidewall and dimensioned for receiving at least one securing member therethrough such that the support member is secured to an end of the bone;

a positioning member configured for being secured to said support member, and having a top surface and a bottom surface; and

a cut guide member configured for being secured to the
positioning member, the cut guide member having a face, and a
translation area, the translation area being defined by a wall
surface, an anterior border, and a posterior border confining
said positioning member such that said positioning member

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moves freely in an anterior/posterior direction within the translation area until one of the top surface and the bottom surface of the positioning member moves into contact with one of the anterior border and posterior border.

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- 97. An orthopedic cutting guide device for use in resecting a portion of a bone, the device comprising:
- a plurality of securing members configured for being inserted into and affixed to the bone;
- a support member comprising a central through hole, a first end and a second end each having a substantially rounded configuration and acting as a pivot, the support member further comprising a plurality of through holes configured for permitting the plurality of securing members to pass therethrough, the plurality of through holes of the support member being dimensioned, such that the support member matingly engages and is fixed to the securing members to thereby anchor the device to the bone;
- a positioning member comprising a first side, a second side, and a central through hole that is aligned with the central through hole of the support member, the positioning member further comprising at least one translational through hole, and at least one rotational through hole located

therein, said positioning member further comprising at least one protruding wall, the at least one protruding wall extending outwardly from the second side of the positioning member in an orthogonal manner, wherein the at least one protruding wall has a substantially rounded configuration such that the at least one protruding wall interacts with and pivots around one of the first end and the second end of the support member, said positioning member configured for being releasably secured to the support member;

a cut guide member comprising a top surface, a bottom surface, and at least one receiving hole located therein that is aligned with the at least one translational through hole of the positioning member, said cut guide member further having a recessed surface and a sidewall defining a recessed area, said cut guide member further comprising a translation area defined by an anterior border, a posterior border, and at least one wall surface that is raised with respect to said recessed surface, said cut guide member further comprising a plurality of through holes configured for permitting the plurality of securing members to pass therethrough and for fitting the cut guide member over the securing members, said cut guide member being releasably secured to the positioning member;

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at least one rotational attachment member configured for

passing through the central through hole of the positioning

member to be received in the central through hole of the

support member to thereby secure said positioning member to

5 said support member; and

at least one translational attachment member configured

for passing through the at least one translational through

hole of the positioning member and being received in the at

least one receiving hole of the cut guide member thus securing

10 the cut guide member to the positioning member;

whereby loosening said at least one rotational attachment

member releases the positioning member from the support

member, such that the positioning member and the cut quide

member are selectively rotated together with respect to said

15 securing members; and

whereby loosening the at least one translational

adjustment member releases the cut guide member from the

positioning member such that the cut guide member is

selectively translated with respect to the securing members

independent from the support member and the positioning

member.

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98. The orthopedic cutting guide device of claim 97,

wherein the device further comprises a boom having a first end

and a second end, said boom being configured as a reference

for a surgeon's use in making an anterior cut in the bone, and

a connecting portion located on the top surface of the cut

guide member, said connecting portion having an opening

therein that is configured and dimensioned for receiving the

first end of the boom.

10 99. A method of adjusting a mal-aligned cutting guide

device on a first bone for use in resecting a portion of the

first bone, the steps comprising:

evaluating a potential gap between a posterior cutting

guide of the device, which is located on a distal portion of

the first bone, and a proximally cut portion of a second bone

utilizing a spacer block, prior to a surgeon resecting a

posterior portion of the first bone to create a flexion gap;

adjusting said mal-aligned device in a rotational manner,

said device comprising a cut guide member releasably attached

to a positioning member, and the positioning member releasably

attached to a support member, by releasing the positioning

member from the support member permitting the positioning

member and the cut quide member to move together in the

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rotational manner until the posterior cutting guide and the proximally cut portion of said second bone are substantially parallel to each other while at least a portion of said device is anchored to said first bone.

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100. The method of adjusting a mal-aligned cutting guide device of claim 99, wherein the method further comprises the step of:

adjusting a size of the potential gap in an anterior/posterior direction by releasing the cut guide member from the positioning member, while said support member and said positioning member are anchored to the first bone, enabling said cut guide member to move in a translational manner independently from the support member and the positioning member.

- 101. A method of adjusting a mal-aligned cutting guide device on a first bone for use in resecting a portion of the first bone, the steps comprising:
- ascertaining the position of the mal-aligned device on the first bone, the device comprising a cut guide member releasably attached to a positioning member, the positioning member releasably attached to a support member;

evaluating a potential gap between a posterior portion of the cut guide member and a proximally cut portion of a second bone; and

in an potential qap size of the adjusting a anterior/posterior direction by releasing the cut guide member from the positioning member, while said support member and said positioning member are anchored to the first bone, enabling said cut guide member to move in said translational manner independently from the support member and the positioning member.

- 102. The method of adjusting the mal-aligned cutting guide device of claim 101, wherein the method further comprises the step of:
- by releasing the positioning member from the support member permitting the positioning member and the cut guide member to move together in the rotational manner until the posterior cutting guide and the proximally cut portion of said second bone are substantially parallel to each other while at least a portion of said device is anchored to said first bone.

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103. A method of adjusting a mal-aligned cutting guide device on a first bone for use in resecting a portion of the first bone, the steps comprising:

evaluating a potential gap between a posterior cutting guide of the device and a proximally cut portion of a second bone such that the device, comprising a cut guide member, a support member, and a positioning member, is adjusted in a rotational manner to create a resulting flexion gap that is substantially parallel as measured between the posterior cutting guide of the device and the proximally cut portion in said second bone;

adjusting said device prior to committing to a posterior cut in said first bone, while said device is anchored to the first bone, by loosening at least one attachment member such that the positioning member is released from the support member while said support member is anchored to the first bone, to thereby permit the positioning member and the cut guide member to move together in said rotational manner; and

tightening said at least one attachment member thereby attaching the positioning member to the support member such that a surgeon makes a cut in the first bone that is substantially parallel to the proximally cut portion of the

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second bone resulting in the substantially parallel flexion

gap.

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104. The method of adjusting the mal-aligned cutting

guide device of claim 103, wherein the posterior cutting guide

of the device used in the method is located on the cut guide

member.

105. A method of adjusting a mal-aligned cutting guide

device on a first bone for use in resecting a portion of the

first bone, the steps comprising:

evaluating a potential gap between the first bone and a

second bone such that the mal-aligned device, comprising a cut

guide member, a support member, and a positioning member, is

adjusted in a translational manner relative to a distal

portion of the first bone to create a flexion gap between a

posterior portion of the cut guide member and a proximally cut

portion in said second bone, said gap being sized for

receiving a prosthetic implant therein;

20 adjusting the size of the gap in an anterior/posterior

direction, prior to a surgeon committing to a posterior cut in

said first bone, by loosening at least one attachment member

thereby releasing the cut guide member from the positioning

Clayton, Howarth & Cannon, P.C. P.O. Box 1909 Sandy, Utah 84091-1909 Phone: (801) 255-5335 Fax: (801) 255-5338 member while said support member and said positioning member are anchored to the first bone, such that the cut guide member moves in said translational manner independently from the support member and the positioning member; and

tightening said at least one attachment member after adjusting the size of the gap to a desired size thereby attaching the cut guide member to the positioning member such that the surgeon makes said posterior cut in the first bone.

10 106. A method of adjusting a mal-aligned cutting guide device on a first bone for use in resecting a portion of the first bone, the steps comprising:

evaluating a gap between the first bone and a second bone such that the mal-aligned device, comprising a cut guide member, a support member, and a positioning member, is adjusted in both a rotational and translational manner relative to a distal portion of the first bone to create a resulting flexion gap that is substantially parallel as measured between a posterior portion of the cut guide member and a proximally cut portion of said second bone, said flexion gap being sized for receiving a prosthetic implant therein;

adjusting the device to create the substantially parallel flexion gap by loosening at least one of a plurality of

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attachment members thereby releasing the positioning member from the support member, and permitting the positioning member and the cut guide member to move in said rotational manner; and

further adjusting the device by loosening at least one of the plurality of attachment members thereby releasing the cut guide member from said positioning member and said support member, and permitting the cut guide member to move in a anterior/posterior direction in said translational manner.

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107. A method of assembling a cutting guide device on a bone for use in resecting a portion of said bone, the steps comprising:

inserting a plurality of securing members into the bone; placing a cut guide member onto the securing members;

anchoring a support member having a plurality of through holes to the securing members, said plurality of through holes being configured and dimensioned for receiving the securing members therein thus securing the device to the bone;

attaching a positioning member to the support member and the cut guide member, such that the positioning member is releasably attached to both the support member and the cut guide member; adjusting the device by loosening at least one of a

plurality of attachment members thereby releasing the

positioning member from the support member permitting the

positioning member and the cut guide member to move together

in a rotational manner relative to the securing members; and

further adjusting the device by loosening at least one of

the plurality of attachment members such that the cut guide

member is released from the positioning member and the support

member permitting the cut guide member to move in a

10 translational manner relative to the securing members.

108. A method of assembling a cutting guide device on a

bone for use in resecting a portion of said bone, the steps

comprising:

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placing a cut guide member onto at least one previously

implanted securing member, said cut guide member having at

least one through hole located therein for permitting the at

least one securing member to pass therethrough;

affixing a support member to the at least one securing

member, said support member having a pivot located thereon and

at least one through hole defined by a sidewall for matingly

engaging the at least one securing member such that the

support member is fixed to the bone; and

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releasably attaching a positioning member to the support member and to the cut guide member such that said cut guide member and said positioning member move together about the pivot of the support member when said positioning member is selectively released from said support member, and said cut guide member being secured to said positioning member such that when the cut guide member is selectively released from said positioning member the cut guide member is thereby permitted to move with respect to said support member independently from said positioning member, whereby a surgeon selectively adjusts the device, prior to committing to a cut in the bone, in both a rotational and translational manner while at least a portion of the device is anchored to the bone.

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109. A method of adjusting a cutting guide device for use in resecting a portion of a first bone, the steps comprising:

positioning a cut guide member on the first bone; releasably securing a support member to a plurality of securing members;

releasably securing a positioning member to the cut guide member and the support member;

evaluating a potential gap between a posterior portion of

the cut guide member and a proximally cut portion of a second

bone to determine whether the device is mal-aligned on the

first bone, and to create a resulting gap that is

substantially parallel as measured between the posterior

portion of the cut guide member and the proximally cut portion

of the second bone;

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adjusting said device in a rotational manner, without

removing and reattaching the plurality of securing members,

prior to a surgeon committing to a posterior cut in said first

bone, by releasing the positioning member from the support

member such that the positioning member and the cut guide

member move together in said rotational manner.

15 110. A method of adjusting a cutting guide device for

use in resecting a portion of a first bone, the steps

comprising:

positioning a cut guide member on the first bone;

releasably securing a support member to a plurality of

20 securing members;

releasably securing a positioning member to the cut guide

member and the support member;

Clayton, Howarth & Cannon, P.C. P.O. Box 1909 Sandy, Utah 84091-1909 Phone: (801) 255-5335 Fax: (801) 255-5338 evaluating a potential gap located between a posterior

portion of the cut guide member and a proximally cut portion

of a second bone to determine mal-alignment of the device such

that the mal-aligned device is selectively adjusted to

increase or decrease a size of the potential gap between the

posterior portion of the cut guide member and the proximally

cut portion of the second bone;

adjusting said device in a translational manner, without

removing and reattaching the plurality of securing members,

10 prior to a surgeon committing to a posterior cut in said first

bone, by releasing the cut guide member from the positioning

member such that the cut quide member moves in said

translational manner.

15 111. A method of surgically preparing a distal femur and

a proximal tibia of a patient's knee joint to receive a

prosthetic knee implant, the method comprising the steps of:

(a) exposing the patient's knee joint through a standard

anterior midline incision;

(b) performing a distal femoral resection, including the

steps of:

(i) drilling a hole in the distal femur to access a

medullary canal in the femur, said hole designed to

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parallel a femoral shaft of the femur in an anterolateral direction and a mediolateral direction;

- (ii) inserting a fluted T-handle through the opening and into the medullary canal to decompress marrow content in the medullary canal, removing the T-handle from said medullary canal, sliding said T-handle through an intramedullary alignment guide forming a first assembly, setting the alignment guide at an appropriate valgus angle, and inserting the first assembly into the medullary canal such that the alignment guide contacts a prominent most femoral condyle to thereby align the T-handle and alignment guide with said medullary canal;
- (iii) assembling a distal femoral cut guide to a cut guide scaffolding forming a second assembly and inserting the second assembly into the alignment guide until the distal femoral cut guide contacts an anterior cortex of the femoral condyles;
- (iv) adjusting an amount of distal femur to be resected, and fixing the distal femoral cut guide to the anterior cortex;
- (v) removing the T-handle, alignment guide, and cut guide scaffolding from the distal femur leaving only the distal femoral cut guide; and

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- (vi) resecting the amount of distal femur using a cutting instrument;
- (c) performing a proximal tibial resection, including the steps of:
 - (i) positioning a tibial alignment guide having a top and a bottom on the patient's lower leg, positioning a tibial cut guide on the top of the tibial alignment guide, placing a tibial stylus on the tibial cut guide and adjusting the tibial stylus to a desired resection depth, and lowering the tibial cut guide onto the tibial until the tibial stylus contacts a tibial plateau;
 - (ii) fixing the tibial cut guide to the proximal tibia and removing the tibial stylus; and
 - (iii) resecting the tibial plateau using a cutting instrument such that the resection is substantially perpendicular to a tibial shaft;
 - (d) balancing an extension gap, including the steps of:
 - (i) placing a spacer block within the extension gap to check said extension gap;
- (ii) determining whether the extension gap is substantially rectangular in shape; and

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- (iii) adjusting the length of the patient's ligaments using a series of ligament releases until the extension gap is substantially rectangular in shape;
- (e) sizing the prosthetic femoral component with the patient's knee in flexion, including the steps of:
 - (i) positioning a sizing guide having a femoral stylus and a paddle by centering said sizing guide on a surface of the distal femoral resection such that the femoral stylus of the sizing guide contacts the anterior cortex of the femur, and compressing the sizing guide until the paddle contacts at least one of the femoral condyles posteriorly; and
 - (ii) reading a marking on the sizing guide corresponding to the appropriate size prosthetic femoral component, placing a plurality of securing members through the sizing guide and into the distal femoral resected surface, and removing said sizing guide from the plurality of securing members;
- (f) locating an appropriately sized cutting guide device on the surface of the distal femoral resection, said device comprising a cut guide member, a support member, a positioning member, and a plurality of attachment members, including the steps of:

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- (i) positioning the cut guide member, the support member and the positioning member over the plurality of securing members such that the support member is anchored to the distal femur via the plurality of securing members, and such that the positioning member releasably secured to said support member, and the cut guide member is releasably secured to said positioning member; and
- (ii) evaluating a potential flexion gap located between the distal femur and the proximal tibia prior to resecting a posterior portion of the distal femur to thereby determine if the cutting guide device is malaligned;
- (g) adjusting the cutting guide device without removing any of the plurality of securing members in a rotational manner by loosening at least one of the plurality of attachment members thereby releasing the positioning member and the cut guide member from the support member such that the positioning member and the cut guide member rotate together 20 about the plurality of securing members thereby rotating said cutting guide device, and thereafter tightening said at least one of the plurality of attachment members such that the flexion gap is created in a substantially parallel manner;

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(h) checking the flexion gap with said spacer block prior to resecting the posterior portion of the distal femur to verify that the flexion gap is substantially equal to the

extension gap;

- (i) adjusting the cutting guide device without removing any of the plurality of securing members in a translational manner, if necessary, by loosening at least one of the plurality of attachment members thereby releasing the cut guide member from the positioning member and the support member such that the cut guide member moves in an anterior direction and in a posterior direction, relative to said plurality of securing members, and thereafter tightening said at least one of the plurality of attachment members such that the flexion gap is increased or decreased to substantially equal the size of the extension gap;
 - (j) performing a posterior distal femoral resection on a posterior side of said distal femur creating said flexion gap, and thereafter removing all instrumentation;
 - (k) checking said flexion gap with said spacer block to ensure an upper side of the flexion gap is substantially parallel with a lower side of said flexion gap, and to ensure that the flexion gap is substantially equal to the extension gap, and to further ensure that there is a desired fit between

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the spacer block, the femur and the tibia when said spacer block is seated in said flexion gap, and if necessary, adding the necessary instrumentation to the plurality of securing members and re-rotating and re-translating the instrumentation accordingly and making any additional cuts that are necessary until the desired fit is obtained;

- (1) performing a series of chamfer resections in the femur and otherwise preparing the tibia to thereby prepare said femur and said tibia to receive the prosthetic femoral component and the prosthetic tibial component, respectively, such that the patient's knee joint is replaced;
 - (m) performing a trial reduction; and
- (n) attaching the prosthetic femoral component and prosthetic tibial component to their respective bones and otherwise finishing the surgical procedure.
- 112. An orthopedic cutting guide device for use in resecting a portion of a bone, the device comprising:
- a first member having a first side, a second side, and a

 20 pivot, wherein at least one protrusion protrudes outwardly
 from the first side and the second side, wherein the first
 member is configured to be anchored to the bone;

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a second member comprising at least one through hole defined by a sidewall, wherein the second member is releasably attached to the first member, and wherein the at least one protrusion of the first side of the first member contacts the sidewall of the at least one through hole in moveable engagement, such that the second member moves about the pivot of the first member when the second member is released from the first member; and

a cut guide member comprising an anterior cutting guide and a posterior cutting guide, wherein the cut guide member is releasably attached to the second member, such that the cut guide member and the second member move together about the pivot of the first member in a rotational manner when said second member is selectively released from said first member, wherein said cut guide member moves in a translational manner when the said guide member is selectively released from said second member, such that the cut guide member is permitted to move independently from said first member and said second member:

whereby a surgeon selectively adjusts the device, prior to committing to a cut in the bone, while at least a portion of the device is anchored to the bone.

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